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ABSTRACT

Norms are tabulated for the Bender Gestalt Test, based on a group of 62 male and 73 female junior high school students in Utah. These norms are designed to fill a gap in norms which now range from 3 years through adult. The students in this group were aged 12 through 14. Standard Bender Gestalt cards were used. The tests were administered individually and scored with the Pascal and Suttell scoring technique. A two-way analysis of variance found no significant differences and no significant interaction for sex and family occupation. Mean number of errors was 26 and mean elapsed time was five minutes and six seconds. These data fit the established trend of increasing ability with increasing age. Tables present the resulting T score equivalent to the number of errors from 1 to 73, and the resulting T score equivalent to elapsed time from twenty seconds to nine minutes, fifty-one seconds. (CTM)

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Junior High Norms For The Bender Gestalt

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Junior High Norms For The Bender Gestalt

The Bender Gestalt is a commonly used psychological test. It is used to assess brain damage, level of visual motor development, reading readiness, and as a projective technique.

Work by Plenk (1967), when combined with that of Koppitz (1964), and that of Pascal and Suttell (1951), has greatly increased the suitable age range for use with the instrument from 3 years of age to the adult years.

Two age gaps now exist within the normative data supporting the Bender Gestalt. One is for subjects within the junior high years and the other is for subjects who are in the last third of their life span.

This study was conducted to meet part of this unmet need and thus supply junior high norms where none now exist.

Method

Subjects. The normative group used in the study consisted of 135 junior high students ages 12 through 14. All subjects were residents of the State of Utah. The sex breakdown for the sample was 62 males and 73 females.

The occupational distribution of the primary bread winner within each family for the sample is depicted in Table 1. Appropriate United States Labor Force statistics are also presented for the purpose of comparison.

Insert Table 1

Apparatus. The standardized Bender Gestalt cards as supplied by the Psychological Corporation were used in this study.

Procedure. Subjects were solicited by asking college students to go out into the community and bring back junior high students with whom they were acquainted.

As potential subjects were thus identified the parents of the subjects were contacted. The study was first explained in detail to the parents and their written permission to proceed was then obtained.

Prior to testing note was made as to the occupation of the primary bread winner within the family. These occupations were subsequently assigned an appropriate Dictionary of Occupational Titles code. (See U.S. Department of Labor, 1965.)

Each subject was then given the Bender Gestalt in an individual testing situation. The testing procedures and instructions used were identical with those that are found in the Bender Gestalt Manual. (See Bender, 1946.)

The elapsed time required to complete the nine Bender Gestalt drawings was measured by means of a stopwatch and then recorded on the protocol at the end of testing.

The resulting test protocols were then scored with the Pascal and Suttell (1951) scoring techniques. This scoring technique is in essence a frequency count of number of errors made in attempting to reproduce the nine Bender Gestalt designs.

Initial scoring was done by lab assistants and then each protocol was reviewed and if necessary corrected by the author.

The scores were subsequently subjected to a two-way analysis of variance procedure. More specifically, the scores were analyzed by sex, family occupation, and sex-family occupation interaction.

Results. Tables 2 and 3 present the normative data in terms of errors scored and elapsed time required to complete the tests that were derived as a result of this study.

Insert Table 2

Insert Table 3

Subsequent two-way analysis of variance of test scores revealed no significant difference by sex: F (1,124) = .8306, $p < .05$; no significant difference by family occupation: F (2,124) = .3058, $p < .05$; and no significant difference by sex-family occupation interaction: F (2,124) = .9358, $p < .05$. A summary of the mean number of errors made by each sex and occupational group is presented in Table 4, and a summary table of the two-way analysis of variance is presented

in Table 5.

Insert Table 4

Insert Table 5

Discussion

Comparing the norms that were derived from this study with the high school and college norms previously reported by Pascal and Suttell reveals a developmental trend. That is, for each increasingly more mature age group the mean on the Bender Gestalt reduces. Since the mean is in actuality a reflection of scorable errors, it is clear that people generally improve in terms of their visual motor abilities as they reach adulthood. Further, it is clear that the clinician has to be armed with appropriate developmental norms in assessing the normality or abnormality of any given test protocol.

The finding that sex and family occupation are not significantly related to visual motor performance raises questions as to how psychologists should approach the task of norming visual motor tests at the junior high level in the future. More specifically, if the current finding is replicated and these variables are not significantly related to test performance, then they do not have to be controlled for in the norming of any future visual motor test, at

least at the junior high level.

Table 1

Occupation Distribution According to Primary Bread Winner

Occupational Category	Percentage of Sample	Percentage of U.S. Labor Force[a]
Professional, Technical, and Managerial	36%	15%
Clerical, Sales, and Service	17%	37%
Other	47%	48%

[a]See U.S. Department of Labor, 1977.

Table 2

Error Score and Resulting T score

Raw Score	T Score	Raw Score	T Score	Raw Score	T Score
1	33.75	26	50.00	51	66.25
2	34.40	27	50.65	52	66.90
3	35.05	28	51.30	53	67.55
4	35.70	29	51.95	54	68.20
5	36.35	30	52.60	55	68.85
6	37.00	31	53.25	56	69.50
7	37.65	32	53.90	57	70.15
8	38.30	33	54.55	58	70.80
9	38.95	34	55.20	59	71.45
10	39.60	35	55.85	60	72.10
11	40.25	36	56.50	61	72.75
12	40.90	37	57.15	62	73.40
13	41.55	38	57.80	63	74.05
14	42.20	39	58.45	64	74.70
15	42.85	40	59.10	65	75.35
16	43.50	41	59.75	66	76.00
17	44.15	42	60.40	67	76.65
18	44.80	43	61.05	68	77.30
19	45.44	44	61.70	69	77.95
20	46.10	45	62.35	70	78.60
21	46.75	46	63.00	71	79.25
22	47.40	47	63.65	72	79.90
23	48.05	48	64.30	73	80.55
24	48.70	49	64.95		
25	49.35	50	65.60		

Note. Mean equals 26, Standard Deviation equals 15.4.

Table 3

Total Elapsed Time and Resulting T Score

Total Time	T Score
20 sec.	20
1 min., 9 sec.	25
1 min., 56 sec.	30
2 min., 47 sec.	35
3 min., 31 sec.	40
4 min., 19 sec.	45
5 min., 6 sec.	50
5 min., 54 sec.	55
6 min., 41 sec.	60
7 min., 29 sec.	65
8 min., 16 sec.	70
9 min., 4 sec.	75
9 min., 51 sec.	80

Note. Mean equals 5 min., 6 sec.,; Standard Deviation equals 1 min., 35 sec.

Table 4

Mean Errors Scored by Sex and Family Occupation

Group	Professional, Technical, and Managerial	Clerical, Sales, and Service	Other
Male	23.0	26.2	25.9
Female	30.6	28.8	23.7

Table 5

Analysis of Variance by Sex, Family Occupation,

And Sex-Occupation Interaction

Source	SS	df	MS	F
Sex	188.68	1	188.68	.8306
Occupation	138.95	2	69.48	.3058
Interaction	425.15	2	212.58	.9358
Errors	28,165	124	227.14	

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